Marginalisation of End-User Stakeholder's in Public Private Partnership Road Projects in Nigeria.

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ABSTRACT

The operational phase of public private partnership (PPP) projects in Nigeria has consistently witnessed serious challenges. Researches by various authors suggest that the major factors militating against the successful growth and development of PPP projects in Nigeria and other developing countries of the world is the marginalisation of end-user stakeholder in PPP projects. As such, this study set out to reveal factors affecting the successful management of the diverse interests of end-user stakeholders of the PPP road projects in Nigeria. Using factors from related literature, a questionnaire was developed and distributed to users of two major PPP road in operation in Nigeria: Lekki/Epe Toll and Apakun Murtala Mohammed PPP toll road. A total of 282 questionnaires were returned representing 70.5% response rate. Cronbach's alpha test was used to check reliability levels of the questionnaire variables (i.e. Likert scale questions) while factor analysis was used to establish the underlying factors affecting the successful participation of end-users stakeholders in PPP road in Nigeria. These underlying factors were fully discussed. It was concluded that active involvement of end-users stakeholders in decision-making from inception to conclusion will solve the problem of marginalisation of end-user stakeholder's in Nigeria PPP road projects.

Key words: public private partnership (PPP); road construction projects end-user stakeholders, questionnaire; factor analysis

1.0 Introduction

Public private partnership (PPP) arrangements have been embraced by many developing nations such as Nigeria in order to bridge significant infrastructural gaps (Ibem, 2011; Kennedy et al., 2015). PPP is globally recognised as supervisory and regulatory capabilities of effective managerial expertise in financing public infrastructure through private sector assistance (Li and Zou, 2011; Oyedele, 2012). The Nigerian government in all levels through Federal, State and Local invested well over ₦10 trillion (₦ is symbol for naira, which is Nigeria's currency) in infrastructure investments through PPP schemes (Babatunde et al. 2016). However, financial crisis in Europe which recently led to huge decline in public investment prompted new approaches to infrastructure projects initiation due to budgetary constraints (Marinelli et al., 2018)

Babatunde *et al.,* (2016) indicated that regardless of wide investment in infrastructure through PPP schemes in Nigeria, one of the major challenges militating against the successful growth of PPP projects and infrastructure development is poor end-user stakeholder management. An end-user is a stakeholder in any infrastructure projects (Olander, 2007) so their opinion matter in any successful infrastructure projects. Failure to address issues concerning end-user needs may lead to stakeholder opposition and can cause project disappointment/failure (El-Gohary et al., 2006; Majamaa et al., 2008). The views of groups of stakeholders on PPPs are different, not only in priorities but also in expectations (Queiroz et al., 2014). Differential perceptions of some opinion researchers delineate that inadequate decision-making and improper resource allocation are the two knowledge streams that always exists in end-user stakeholders PPP projects (Ullah and Thaheem, 2018). Also, 'stable political system', reputable contractor' and 'equitable risk allocation' are the most critical success factors in Nigeria when it comes to PPP projects (Muhammad and Johar, 2019)

According to Gregory *et al.* (2003), end-user stakeholder opposition mostly emerge in projects where the public sector adopts a 'user-pays' PPP approach. A major reason for this is the conflict between the revenue and profitability goals of the project consortium and the economic interests of the end-users (Smyth, 2007). Opting for user-pays (tolling) by the government, is to bridge the gap between inadequate government funds and investment needs (Jaensirisak; 2005). A good example country where such practice has been in existence for over 100years is Norway, where tolling is used as a means of complementing constrained government funding (Poole Jr, 2000; Lossa and Martimort, 2013). The user-pays model transfers the entire cost of the project to the end-users (mostly private and commercial motorists) over the life of the concession. Predictably, such decisions result in stiff resistance and public outcry (Yuan et al., 2009). The prevalence of end-user stakeholder opposition to PPP projects often vary across project types (Mostafa and El-Gohary, 2014). While PPP projects such as hospitals, schools, prisons among others may not usually attract vehement opposition from end-users (Zitron, 2006; Lv and El-Gohary, 2016),

such is not always the same with projects like toll highways, sewerage systems, hazardous waste projects, water projects among others (Aziz, 2007; Gunnigan and Rajput, 2010)

In a typical PPP toll road project, aside complaints like high toll charges (Cheung, 2009), other issues include longer travel hours and traffic congestion during the construction stage of the project (Awodele et al., 2012), resistance to payments of tolls on road projects which should be government's obligation (Norton and Blanco, 2009), compensation packages and developmental issues (Gupta and Agrawal, 2013) among others often raise enormous tension concerning PPP road projects globally (Cheung *et al.,* 2010) and Nigeria in particular (Amadi *et al.,* 2014). Managing the end-users stakeholders requires incessant interactions between the members of the public and the project organisation (Eskerod & Jepsen, 2013) so that common development of understanding can be achieved between the two parties and any other stakeholders involved. Recently, researchers (Lim et al., 2005; Lv and El-Gohary, 2016; Hill and Jones, 2007; Yuan *et al.*, 2009; Chung *et al.*, 2010; Harris, 2010; Akintoye *et al.*, 2011) have argued for more robust strategies for addressing end-user stakeholder opposition in PPP projects especially on toll highways. However, despite the many issues of stakeholder opposition to PPP road projects in Nigeria, studies (e.g. Awodele et al., 2012; Amadi et al., 2014; Akintoye et al., 2011) have mainly focused on the successful delivery, or holistic management of all type stakeholders involved in a PPP project. Unfortunately, and undeservedly, no study has focused on the issue of marginalisation of end-user stakeholders with a view to reducing/eliminating such marginalization and the challenges that come with it

Therefore, this study emerges with the overarching aim of revealing factors affecting the successful management of the diverse interests of end user stakeholders of the PPP road projects in Nigeria. This study will significantly contribute to the knowledge of PPP by using the identified underlying factors to solve the neglected, forgotten and unfairly treated end-user stakeholders in Nigeria PPP road projects. The scope of this work is limited to two PPP toll road projects in Lagos which were constructed within the last 13years. The toll road projects are used by both private and commercial users which is not a barrier for adoption as sample. The toll roads are situated in Lekki and Ikeja axis of Lagos State within the borders of Nigeria. All end users that are considered are all toll-paying users. These include commercial buses, commercial cyclist, commercial taxis, commercial Lorries, trucks or trailer, private bikes, private cars, private buses, office workers and pedestrians among others. Only frequent users, averaging a use frequency of once a week are also considered as part of the sampling population. Users such as drivers/riders and/or passengers of the vehicles are all inclusive. One of the significant limitations of this work is that PPP is considered from the end-user stakeholder's perspectives while the success factors of PPP are not considered within the scope of the work.

2.0 Literature Review

The maintenance and construction of public infrastructures is persistently unending challenge for developed and emerging economies (Zawawi et al., 2014). Huge capital investments are duly responsible for such developmental projects. Financing public infrastructures is now being adopted by many countries in order to bridge government financial gap (Ibrahim et al., 2009). Governments are aware that an underdeveloped road network is likely to be associated with sub-optimal economic performance and quality of life (World Bank Group, 2020). The final consumers of any construction developments are end-users stakeholders who are also secondary employers of multinational organisation (Babatunde et al., 2016). Amadi et al; (2014) reiterated stakeholders' opposition as one of the main cause of PPP project failures emphasising the frequency of the resistance of end users and stakeholders to PPP projects where individuals are expected to be charged directly for services. In preliminary studies carried out by Olson and Swenson, (2011) and Xiao et al., (2013) the ignorance of end-users desires were condemned during the construction conference in North America. Olusola et al., (2012); Sopha et al., (2013); Knoeri et al., (2016) emphasised that communication lapses between clients, end-users, and project sponsor are susceptible. There is need for multinational organisation to do more research on managing the needs of end-user stakeholders in any PPP road construction project amongst others (Egan et al., 2012). The only solution to this particular problem is to find a better way to agree with individuals or entities connected to the project (Eskerod & Jepsen, 2013) in order to improve the end-users stakeholders' management involvement. Some critical factors that can enable successful PPP projects both in Nigeria and the world at large were the business viability and feasibility study of a project; sharing and risk allocation among end-user stakeholders of the particular project; regulatory and proper effective legal framework; outcomes and clarity of project in consonance with client objectives among others (Al-Saadi and Abdou, 2016). Hence, favourable investment environment, supportive legal frameworks, public support and selection of appropriate PPP projects are success factors that can propel adequate unanimity that can consider end-user stakeholders involvement in PPP projects (Hsueh and Chang, 2017). The importance of managing the interests and needs of projects' stakeholders had been emphasised by Amadi et al; (2014) as recognised by many scholars and authors.

Communication lapses between clients, end-users, and project sponsor were emphasised by some authors around the world (Olusola et al., 2012; Sopha et al., 2013; Knoeri et al., 2016) as a major in end-user stakeholder management. This poor communication often results in series of petitions, protests, and even riots in many host communities. In providing a way forward for Nigeria's PPP, Abdullahi (2010) emphasized the need for all effective management of all stakeholders including host local communities. Stakeholders role should be clarified in order to avoid duplication of functions (Akintoye et al., 2011) policy confusion and mixed signals. This and some other issues were remote issues relating to challenges including protests by citizens when such PPP projects were announced or commenced by the promoters or contractors. The

possibility of sustaining PPP projects by making the public benefit more from PPP framework is being eroded by lack of proper guide or framework for the concept. Babatunde et al., (2016) also emphasised the need for clarity of rules and regulations through the government stating clearly the guidelines, consequence of character, expectations and notice of principles should in case of any misunderstanding. Communication analysis with end-user stakeholders must be incorporated deliberately at the beginning of any PPP programme. Stakeholders generally should also be properly managed through the flow of information (Olusola et al., 2012) and awareness which are fundamental requirements for any successful PPP initiatives. Generally, the study of stakeholder gives a some probable knowledge of value and interests of end-user, attitudes and nature. Thus, the need to properly manage the end user stakeholder on PPP road project is sacrosanct to the hitch free and successful implementation and achievement of PPP in developing economies like Nigeria.

3.0 Research Method

Since the aim of this study is to establish factors that are applicable to PPP road projects in Nigeria, based on the many available factors from literature, the research is deductive in nature. The factors identified from literature were used to formulate a questionnaire which formed the only mode of data collection for this study. This clearly highlights the quantitative nature of this study. The fact that this study seeks to measure how respondents perceive the identified factors, coupled with its deductive and quantitative nature, gives it a positivist outlook, especially as the positivism paradigm believes that research can mainly be done by observations and measurements (Trochim and Donnelly 2008).

The respondents that were targeted for the questionnaires were PPP road users in Lagos Nigeria, using two major PPP road in operation in Nigeria as case study: Lekki/Epe Toll and Apakun Murtala Mohammed PPP toll road. These two are the respective busiest and third busiest toll roads in Lagos (Lafargeholcim 2018). The second busiest toll road, which is the Lekki bridge, was not chosen because of its proximity to the Lekki/Epe toll road. Our observations revealed that most of the users of the Lekki bridge are, mostly at the same time, users of the Lekki/Epe toll road hence responses from users are unlikely to be different. The focus was on Lagos as it represented the state with the most complaints about toll roads from end-user stakeholders (Lafargeholcim 2018).

A combination of purposive and random sampling was used. Purposive sampling was used in an effort to mainly capture frequent users of the road who are more likely to have opinions on the challenges of the roads. To this end, only users with periodic (weekly/monthly/yearly) permits/tickets were given the questionnaires. Random sampling was based on the fact that, in no particular order, any identified frequent user who was willing to accept the questionnaire was given one to complete and return.

The toll companies gave conditioned access to our team of questionnaire distributors according to their policy on research support. The key condition was that for safety reasons, questionnaire distributors had to sit with toll collectors/permit checkers in their collection box offices and distribution was limited to maximum of 300 and 150 questionnaire (or a month to distribute and receive, whichever comes first) distribution in the Lekki/Epe Toll and Apakun Murtala Mohammed PPP toll roads respectively. This was to minimise disruption to their work. A team of questionnaire distributor/collectors were subsequently dispatched to the collection box offices tolls. The Lekki/Epe Toll road stipulated a maximum of three distributors in a day while the Apakun Murtala Mohammed PPP toll road stipulated two as maximum. All conditions given by the toil companies were strictly adhered to. The distributors handed out the questionnaires to drivers who drove through the toll and advised them to hand them back on any of their next journeys through the toll.

According to Lafargeholcim (2018) Murtala Mohammed International Airport Road is used by an average of 50,000 vehicles each day while Nwoye and Iyiola (2016) reported average daily traffic of 172,457 on Lekki Epe Express toll road thus establishing a 1 to 3 ratio for traffic distribution between the two roads. To keep questionnaire distribution in line with this ratio, the maximum allowed 300 was ditributed at Lekki/Epe Toll and 100 for Apakun Murtala Mohammed PPP toll road, giving a total of 400 questionnaires distributed

A total of 282 (70.5%) questionnaires were returned. This comprised 252 respondents from Lekki-Epe toll road and 30 from Apakun Muritala Muhammed respectively. Of the usable questionnaires, returned rate of Lekki-Epe respondents was impressing perhaps because of their previous protest of their being marginalized, during and after the project construction while respondents from Apakun Murtala Muhammed were disappointing on their rate of return showing their lackadaisical approach to salient issues affecting the road users. The questionnaire data was analysed using Statistical Package for Social Sciences (SPSS) software.

Reliability test was carried out as per the recommendation of many social scientists (Field, 2013; George and Mallery, 2003; Nunnally and Bernstein, 1994; Spector, 1992; among others), Cronbach's alpha coefficient is used in this study to test and examine the reliability of the questionnaire data. Mathematically, Cronbach's alpha is written as

$$\alpha = \frac{N^2 COV}{\sum S^2_{criteria} + \sum COV_{criteria}}$$

Checking the consistency of the obtained data was the main objective of the test which was established in order to assess the variables and their associated Likert scale in line with the concept they were envisioned to measure (Field 2013). The concept, in this case, is the title given to each numbers of variables as related to the management of end-users stakeholders.

4.0 Results

4.1 Reliability analysis

The coefficient of Cronbach's alpha value ranges from 0 to 1 and as a thumb rule, 0.9 and above represent high consistency, but 0.8 was described as a sign of good internal consistency (reliability) while 0.7 is recommended as the lowest acceptable score (George and Mallery 2003). Table 1 presents the Cronbach's alpha coefficient test results. The reliability test was ~~ran~~ conducted and the overall Cronbach's alpha coefficient gotten was 0.882, showing good internal consistency of the data.

Table 1: Reliability test for identified factors for better end-users stakeholders' management of PPP Road Project

S/N	Variables	Cronbach's alpha if item deleted
	Overall Cronbach alpha = 0.882	
1.	Creating jobs for residents	0.879
2.	Improving local flooding and drainage works	0.880
3.	***Royalties for indigenes (compensation)***	***0.885***
4.	Repair of local minor roads leading to important places like market, beaches and other recreational areas	0.877
5.	Giving incentives to local residents during road work	0.879
6.	Putting proper road work signage in place to increase safety	0.874
7.	Avoiding the damage of (or replacing damaged) natural habitats like water ponds, mangroves, forest etc.	0.882
8.	Installation of speed limiting devices on both main and alternative routes	0.874
9.	Making provisions for crossing structures	0.879
10.	***Compensation of electricity for removal of electric poles and overhead cables***	***0.886***
11.	Create special crossings for school children	0.874
12.	Make effort to reduce cement and other types of dust so as to avoid inhalation by members of the host community	0.876
13.	***Avoiding displacement and killing of wildlife and endangered speeches***	***0.883***
14.	Avoiding local water pollution	0.882
15.	Increase restriction efforts on roads during and after construction so as to increase safety	0.874
16.	Noise level and air pollution	0.877

S/N	Variables	Cronbach's alpha if item deleted
17.	Providing water wells for communities whose water supply are disrupted due to construction works	0.878
18.	Involvement of Community leaders in key decisions	0.879
19.	The choice of route for the road in terms of minimal physical effect (e.g. demolition of buildings) on local properties and businesses	0.879
20.	Involvement of Residents in key decisions	0.879
21.	***Reduction of impact to cultural sites***	***0.883***
22.	Involvement of Religious leaders in key decisions	0.878
23.	Provision of alternative route during construction to ease traffic	0.877
24.	Reduction of disruption of community access	0.876
25.	Involvement of private firms within the community in key decisions	0.878
26.	Make efforts to stop increase in cost of living and provide basic infrastructure	0.876
27.	Involvement of Youth leaders in key decisions	0.877
28.	***Contractor should contribute to the improvement of security in the host community as construction works lead to security risk***	***0.885***
29.	Consideration of the community for timings of road blocks created in order to carry out construction works	0.875
30.	Involvement of Royal fathers in key decisions	0.880
31.	Compensations to affected building and adjacent areas such as lands, shops, petrol stations among others	0.878
32.	Involvement of Women leaders in key decisions	0.880
33.	Travel time during and after construction	0.877

To check if all the variables are contributing to the internal consistency of the data, the 'Cronbach's alpha if item deleted', positioned in column three of Table 1 is further examined. A variable that is not contributing to the overall reliability from the sets of variables will generally have a higher correlated 'Cronbach's alpha if item deleted' value than the data's overall Cronbach's alpha coefficient (Field 2013). This higher value portrays that if the variable with the value is deleted, the overall reliability of the data will increase (Field 2013). In this context, all the variables in serial number 3, 10, 13, 21, and 28 respectively that are written in boldly and italics font in the Table 1 did not contribute positively to the reliability.

4.3 Factor Analysis

In order to achieve another objective of this study, there is need to establish the basic factors that form the basis of the identified criteria. Some few, more concise and uncorrelated principal

factors will be replaced in place of various identified criteria. An exploratory factor analysis was carried out including principal component analysis and 'direct oblimin' oblique rotations were used as methods of factor extraction and rotation respectively. During the process, Bartlett tests of sphericity and Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy were also conducted to check the appropriateness of the data for factor analysis. Values of 0.793 (above 0.5) and 0.0003649747 (less than 0.05) were gotten respectively, signifying that the data set is appropriate for factor analysis and the sampling is satisfactory. According to Pallant (2013), the closer the KMO value is to one, the more appropriate the use of factor analysis. The extracted factors represented 62.581% of total variance (see the base of 6th column) as presented in Table 2; this depicts a good percentage of representation. As against the percentage of variance (6th column), the varimax rotated solution (8th column) produced values that portray a more evenly representation of the data by the extracted factors after redistribution, thereby giving more credence to the variance of the factors.

The questionnaire variables were arranged under each extracted factors offspring in the order of priority as shown in Table 3 based on the factor loading value, the variable with the dominant factor loading value showing in the first row of each extracted factor. This arrangement does not concern the (positive or negative) sign of the factor loading value which is taken as offspring/representing notable extracted factor. This allows variables contributing to that factor to represent a particular extracted factor as offspring variables. Examples of extracted factor are S/N 6, 8, 9, 11, 12 and 15 in the other of offspring variables (see Table 3). The indicative extracted factor will be used in the development process of end-users stakeholders' management for PPP toll roads in Nigeria. Based on the contributing constituent/offspring questionnaire variables, each variable has been assigned with a name for proper representation.

Table 2: Factor Analysis for Total Variance

Total Variance Explained							
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	7.762	23.521	23.521	7.762	23.521	23.521	5.312
2	2.921	8.850	32.371	2.921	8.850	32.371	5.119
3	1.879	5.694	38.066	1.879	5.694	38.066	3.683
4	1.787	5.415	43.481	1.787	5.415	43.481	1.589
5	1.457	4.414	47.895	1.457	4.414	47.895	2.007

6	1.335	4.046	51.940	1.335	4.046	51.940	1.474
7	1.281	3.881	55.821	1.281	3.881	55.821	1.794
8	1.181	3.579	59.401	1.181	3.579	59.401	3.064
9	1.050	3.181	62.581	1.050	3.181	62.581	1.477
					62.581		
Extraction Method: Principal Component Analysis.							
a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.							

The questionnaire variables were arranged under each extracted factors offspring in the order of priority as shown in Table 3 based on the factor loading value. This arrangement does not concern the (positive or negative) sign of the factor loading value. The development process of end-users stakeholders' management for the prescribed PPP toll roads will be governed by the factors extracted from the analysed factors. Names have been assigned to each factor according to contributing constituent/offspring questionnaire (see column six of Table 3). Nine (9) factors were extracted but only seven were contributory variables. Top rated variables will be considered for discussion amongst top two extracted factors; **Safety efforts by the contractor and Socio-economic impact**. All non-contributory offspring variables are shown in italics font in Table 3 (including the unreliable ones based on the Cronbach's alpha test). In addition, any ~~questionnaire~~ variable that loaded considerably on more than one extracted factor was totally exempted i.e. not considered as part of any of the two or more extracted factors (Tabachnick and Fidell 2007). This is the case with S/N 27 which loaded significantly on the seventh and eighth extracted factors. This questionnaire variable (i.e. S/N 27) is thus given in italics font and underlined at the same time in Table 3.

Table 3: The extracted factors from factor analysis for end-users stakeholders needs along project route

S/N	**~~Questionnaire~~ Variables used in the factor analysis**	**Factor Loading**	**% of variance**	**Eigenvalue**	**Factor assigned name**
	Offspring variables of 1st Extracted Factor				
6	Putting proper road work signage in place to increase safety	0.808	23.521	7.762	**Safety efforts by the contractor**
8	Installation of speed limiting devices on both main and alternative routes during construction	0.730			

S/N	~~Questionnaire~~ Variables used in the factor analysis	Factor Loading	% of variance	Eigenvalue	Factor assigned name
9	Making provisions for crossing structures	0.446			
11	Create special crossings for school children	0.574			
12	Make effort to reduce cement and other types of dust so as to avoid inhalation by members of the host community	0.562			
15	Increase restriction efforts to construction site so as to increase safety	0.656			
	Offspring variables of 2nd Extracted Factor				
19	The choice of route for the road in terms of minimal physical effect (e.g. demolition of buildings) on local properties and businesses	-0.535	8.850	2.921	**Socio-economic impact**
23	Provision of alternative route during construction to ease traffic	-0.748			
24	Reduction of disruption of community access	-0.575			
26	Make efforts to stop increase in cost of living and provide for basic infrastructure.	-0.743			
29	Consideration of the community for timings of road blocks created in order to carry out construction works	-0.622			
31	Compensations to affected building and adjacent areas such as lands, shops, petrol stations and	-0.539			
33	Travel time during and after construction	-0.723			
	Offspring variables of 3rd Extracted Factor				
1	Creating jobs for residents	0.675	5.694	1.879	benefit Realisation and community participation
2	Improving local flooding and drainage works	0.709			
3	*Royalties for indigenes (compensation)*	*0.494*			
4	Repair of local minor roads leading to important places like market, beaches and other recreational areas	0.722			
5	Giving incentives to local residents during road work	0.651			

S/N	~~Questionnaire~~ Variables used in the factor analysis	Factor Loading	% of variance	Eigenvalue	Factor assigned name
	Offspring variables of 4th Extracted Factor				
21	*Reduction of impact to cultural sites*	*0.674*	5.415	1.787	*Impact to cultural sites*
	Offspring variables of 5th Extracted Factor				
7	Avoiding the damage of (or replacing damaged) natural habitats like water ponds, mangroves, forest etc.	0.863	4.414	1.457	environmental impact
13	*Avoiding displacement and killing of wildlife and endangered speeches*	*0.446*			
14	Avoiding local water pollution	0.378			
16	Noise level and air pollution	0.308			
	Offspring variables of 6th Extracted Factor				
10	*Compensation of electricity for removal of electric poles and overhead cables*	0.781	4.046	1.335	Public utilities compensation
17	Providing water wells for communities whose water supply are disrupted due to construction works	0.398			
	Offspring variables of 7th Extracted Factor				
18	Involvement of Community leaders in key decisions	0.513	3.881	1.281	Integration with the host community
20	Involvement of Residents in key decisions	0.550			
25	Involvement of private firms within the community in key decisions	0.377			
27	*Involvement of Youth leaders in key decisions*	*0.343*			
	Offspring variables of 8th Extracted Factor				
30	Involvement of Royal fathers in key decisions	0.577	3.579	1.181	Integration with political groups
32	Involvement of Women leaders in key decisions	0.766			
22	Involvement of Religious leaders in key decisions	0.365			
27	*Involvement of Youth leaders in key*	*0.427*			

S/N	~~Questionnaire~~ Variables used in the factor analysis	Factor Loading	% of variance	Eigenvalue	Factor assigned name
	decisions				
	Offspring variables of 9th Extracted Factor				
28	*Contractor should contribute to the improvement of security in the host community as construction works lead to security risk*	*0.861*	3.181	1.050	*Security*

4.4 Discussion of Findings

Only the top two underlying extracted factors and their top four contributing variables that hang together under the factor heading are extensively discussed in this section of the paper in terms of the constituting conditions. The discussion is constructed to display typical problems of the two PPP project roads.

4.4.1 Safety Efforts by the Contractor

In order to regulate traffic behaviour and the risk of accidents, several numbers of safety measure should be taken into consideration. Rangel and Vassallo, (2013) in their research reiterated that safety-based inducement based on unambiguous road safety indicators in PPP road project were introduced in some of the countries in Europe (United Kingdom, Finland, Spain, Hungary, Slovakia, Portugal and Norway) to collaborate with the effort of Contractor in reducing the menace caused by motorist. The following top four preventives measures were discovered during the identification of challenges facing end-user stakeholders of PPP road project in Nigeria.

- Putting proper road work signage in place to increase safety
- Installation of speed limiting devices on alternative routes during construction:
- Making provisions for crossing structures (Pedestrian Bridges)
- Create special crossings for school children:

Putting proper road work signage in place to increase safety

Safety of residents, workers and drivers plying the project area before, during and after the development must be adequately considered. The prescribed PPP road project is a five dual carriage ways which pass through small populated areas. Therefore, most drivers needed to adapt

from rural to urban driving situations (Dirección General de Tráfico, 2011) most especially when driving in an urban area like in Lagos metropolis Nigeria. Relationship between accident frequency and traffic flow are discovered by several authors (Chang et al., 2010; Persaud et al., 2010; Anastasopoulos and Mannering, 2011). Radar attachment allowing the signs to discover and post the speed of each vehicle passing through the PPP toll roads to their various abode will give messages in terms of advisory and information notifying the drivers about hazards ahead or traffic conditions along the toll road (Islam and El-Basyouny; 2013). The private investor should use the profits obtained from the safety incentives to design better signalling and alignment systems for the community stakeholders (Mills et al., 2011). Caliendo et al., (2013) described effective way to control traffic flow in a project area by introducing traffic regulators such as speed limits, traffic lights and traffic officers to curb the drivers who intend to violate the safety traffic rules.

Installation of speed limiting devices on alternative routes during construction:

According to World Health Organisation (WHO), road casualties can be reduced when speed controls are identified. Controlling the speed limit to a barest minimum will definitely ease the condition of traffic during peak periods (Elvik, 2012). This will have positive effect on environmental impact of the road traffic (emissions, vehicle noise, and vibration) in order to fulfil the local community wishes of end-users stakeholders moving along the project area without using cars (Oviedo-Trespalacios et al., 2017). Multiple numbers of speeds humps (elevated pavements spanning across a roadway) should be installed by the private investor in order to enforce reduction of speed by the drivers (Bekheet, 2014). The installation could be done randomly without any uniform engineering study which does not need any design, signage and markings.

Making provisions for crossing structures (Pedestrian Bridges)

Infrastructure like pedestrian (e.g. crosswalks) is important to facilitate easy walking environment along road project area thereby improving local economic development (Amoako et al., 2014). There are various factors in association with the desirability of a crossing structure in the project area. Therefore, ensuring balance maintenance and adequate provision of pedestrian infrastructure in terms of accessibility, suitability and availability for the various end-users stakeholders of the project communities is a prerequisite for achieving urban agreement, functionality, and unity in PPP road project (Oben-Atuah et al., 2017). Provision for easy movements of cows, pigs, goats and other habitat during construction in order not to endanger the life of the end-user stakeholders and engineers working on site is inevitable.). Definitely, one of the most cost effective ways to provides crossings for animals is to use highway crossing structures meant for other uses (Obeng-Atuah et al., 2017). The combination of guide fences and underpasses to pipe animals beneath expressways could be the most successful structure for

reptiles and amphibians in an urbanized toll road such as the ones considered in this paper (Gagnon et al., 2011; Lesbarreres and Fahrig, 2012).

Create special crossings for school children:

Most of the prevailing literature on special crossing for school children in Western nations, stop from the concern that there is a link between active forms of school trips(walking or biking) and the overall well-being of schoolchildren (Van Loon and Frank; 2011). In these situations, home-school trips, which represent a considerable share of daily trips, should be given utmost priority when it's come to implementation of infrastructure for school children. Majorly, safety and equality should be the guiding tools for school children trips with the provision of special crossing which include ease of access criteria such as undesirable conditions (footpaths, steep gradients, and access through industrial areas), which might reduce accidental rate if upper limits on travel time and maximum distances were available for community stakeholders including school children (Ewing et al., 2011). Therefore, it is imperative for the project organisation to make adequate provisions for zebra markings, speed breakers among others where vulnerable road users like school children frequently cross.

4.4.2 Socio-Economic Impact

The movement of residents, goods and other stakeholders should not be restricted during construction periods in order not to disturb the socio-economic activities along the neighbourhood of the projects. This situation can cause severe disturbance and nuisance (traffic jams), which can be resulted to end-users stakeholders time wasting. Jenelius et al., (2013) recently described that if alternative links can be joined to the existing route, especially around heavily used areas such as Lekki-Epe expressway, will improved the performance and vulnerability reduction such as (change in vehicle travel time). Sharp increase in cost of transporting foods item, construction goods and other meaningful goods of livelihood will be become higher due to the socio-economic impact along the project area where end-user stakeholders' population are on the rise (Celik, 2014; Gangolells et al., 2016; Ferguson, 2012). The living conditions around the geographical location is absurdly mixed with massive increase in house rent contributing to economic sagacity and profound humiliation of end-user stakeholders' of the environment. The top four offspring that emanated from the socio-economic variable are

- Choice of route for physical effect (demolition of buildings)
- Provision of alternative route during construction to ease traffic
- Reduction of disruption of community access
- Make efforts to stop increase in cost of living and provide basic infrastructure

Choice of route for physical effect (demolition of buildings)

Government and private investors should consider the stakeholders plight before embarking on any demolition of physical asset. Property owners, landowners, traders and other users of the road would be physically affected (Shull et al., 2014). Development of road is a necessity to the stakeholders both within and outside the project location. Underprivileged stakeholders could be marginalised because of the catchment area that comprises of elites ranging from oil company executives, bank executives, top civil servants and entrepreneur. These can also affect Kiosk, market places and other micro-enterprises buildings along the road. Non-permanent structure including drinking sheds, huts, graveyards, drying racks, which has been approved by the local government authority, would not be spared (Anwar et al., 2016). The elites people that were considered in this study lives in the earth of Victoria Island, Oniru, Lekki and Ikeja axis while the poor people that can be found along the same corridor of the project area resides in Elegushi, Osapa London, Agungi, Kuramo, Maroko, Ilasan, Ajah and Oshodi.

Affected residents, regardless their legal status were bullied by the government before the entitlement cut-off date which is the date when the assessment of the residents involved in the project areas were to be carried out. It is ideal (where possible) to provide neighbouring or adjacent land for affected stakeholders such as newly acquired sites by the government in order to relocate genuine~~ly~~ stakeholders (Ament et al., 2014). Hence, the major concerns of community stakeholders were prospects for getting fair compensation and adherence to contractor's obligations before or after the completion of the project.

Provision of alternative route during construction to ease traffic

Infrastructural investments usually give local essential means and outcomes to deal with traffic complications for a smaller community, or a section of an expressway with the heavy traffic volume (Moriyama et al., 2011; Verhetsel et al., 2015). In recent years, PPP has exhibited interest in infrastructure projects such as toll roads in curbing excessive traffic conditions (Gomez et al., 2016). Transportation sector has gained limitless attention from various divisions but failed rarely to address the traffic on toll road (Nicolaisen, 2012; Odeck, 2013). Expanding roadways with the determination of reducing congestion during peak period is found not be cost effective (Downs et al., 2014). A sound developed alternative road network that will give travellers more routes options is necessary in order to contribute to healthier functioning transportation network (Lakshmanan, 2011)

A usual way of reducing congestion in larger cities such as the studied area is to create loops or ring roads in order to divert peripheral through traffic round the city. This will reduce travel times and improve traffic flows (Elias et al., 2011). Several authors confirmed that construction of bypasses will have positive effect on residential communities by reducing inner city truck

traffic, improving visibility and accessibility, and creating chances for new development (Elias et al., 2011; Leong, 2012; Leong et al., 2013). Some researchers called for cautious deliberations on construction of bypass proposals because of the risk in wholesale and retail activity in the project area (Antipova and Wilmot, 2012; Cena et al., 2011; Qi et al., 2013). This can hamper socio-economic activities along the neighbourhood of the projects while movement of residents, goods and other stakeholders can be restricted during construction.

Reduction of disruption of community access

The resources and resettlement rights policies should be paramount when considering the affected stakeholders as part of their livelihood strategies, instead of focusing on physical asset replacement and cash compensation which are not accessible (Penz et al., 2011). The implementation of compensation of stakeholder's assets during and after construction was moribund. Even though, the law that was supposed to be enacted in order to protect the end-user stakeholders' right did not surface before and after construction.

Programs should have been prepared by the government and private investors to enhance and support the livelihood of the affected stakeholders, but unfortunately these have been largely ineffective (Biu et al., 2013). This study laid emphases on livelihoods based on access to their various homes and business resources. In most developed countries the construction zone where road projects has been executed usually accommodates procedures for renovating or building existing structures where contractors showcase a sign post that will state "Sorry for any inconvenience we cause in this neighbourhood" (Biu, 2013). This is not applicable in the project area which indicated that extra facilities and infrastructure needed to cope with the increased populations should be provided when embarking on any PPP road project.

Make efforts to stop increase in cost of living and provide basic infrastructure

The PPP road project has a negative impact on the end-users stakeholders in terms of multiple toll charges by the government and private investor which invariably increase the cost of living through hike in transportation fare (Sev, 2011; Balaban, 2012; Hunt et al., 2014; Mattews et al., 2015). The job of the government and private investor is to strengthen and raise the quality of life for both end-user and stakeholders of that community providing tangible infrastructural facilities in building environment that is sustainable in terms of basic needs and values (Myres, 2013; Osei, 2013; Diaz et al., 2015).

The impacts on security and socio-economic advantages cannot be overlooked but increase in cost of transporting foods item, construction goods and other meaningful goods of livelihood are extra ordinarily unbearable. Considering the studied area, the implementation of road construction projects turns out to be the causes of serious pains to the host community and end-

users which eventually makes life difficult (Celik, 2014; Gangolells et al., 2016; Ferguson, 2012). Something needed to be done to cushion the effect of the end-user stakeholders of the area in order to relief their pains and anger.

5.0 Implications of the study

The originated outcomes from this study provided thinkable solutions to both industrial and government practice. The study has suggested the successive practical impacts applicable if considered for use.

- The study could be used in identifying sources of conflicts in interests and disagreements to successful delivery of PPP road projects in Nigeria which is expected to boost the implementation of PPP arrangement with the introduction of new prospects by offering assistance to the construction industry.
- The study will inclusively be as a guide most especially to the government in decision-making process and also addressing any form of agitation that might arise during PPP project developments.
- In order to reduce or abolish end-user stakeholders' litigations and opposition, this study should be considered as a template that will foster strong relationship and co-operation between the end users, stakeholders and the government on future PPP road projects.
- Impediments and challenges in PPPs had been investigated by previous studies through empirical method in Nigeria, but the outcomes are encouraging hence, this study will encapsulate the awareness of end-users stakeholders in adopting PPPs as a tool in developing infrastructure facilities
- This study will not only contribute to the knowledge in respect to the development of end-user stakeholders groups in PPPs, but also will contributes to the broader body of both public and private investors using it as a guidelines when implementing PPPs in construction and all other industries.

6.0 Conclusion

The support of End-user stakeholders' in any PPP project requires attention in terms of communication. The end-user stakeholders' response to the questionnaire identified lapses that are creating impediments on the success of PPP infrastructure projects such as socio economic impact and adequate safety by the private sector. The research revealed four preventive measures under adequate safety including putting proper road work signage, Installation of speed limiting devices on alternative routes during construction, Making provisions for crossing structures like providing pedestrian bridges), create special crossings for school children; and another four variables for socio-economic impact which are Choice of route for physical effect, provision of

alternative route during construction to ease traffic, reduction of disruption of community access, Make efforts to stop increase in cost of living and provide basic infrastructure. The agitation of end-user stakeholders in Nigeria necessitated the embracement of PPP as a way of bridging infrastructure gaps that cannot be met by the government. Proper management of stakeholders must be carefully observed with full applicability of their involvement from the inception to the implementation stage of the project in order to avert any future agitation especially as regards the aforementioned adequate safety and socio-economic impact. Also, deeper knowledge of impediment of these end-users stakeholders' relationships may give valuable insight to government, both private (foreign) and local investors in terms understanding, expectations, necessities that is expected from the host communities.

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